(c) apply a test to the data elements lying on the boundary to identify other data elements representing portions of the tooth;

wherein the computer applies the tests without human intervention.

REMARKS

The action mailed November 3, 2000, was addressed in remarks previously submitted, which will not be repeated. The present remarks are directed to the advisory action mailed February 27, 2001.

Claims 1-192 are pending. The advisory action indicated that claims 1-120 would be allowable if submitted alone.

Claims 1-120

The advisory action questioned the correctness of new language in claims 75 and 98. This language is correct, because the word "applying" is subject of the verb "is", and so the singular verb form is correct. In claim 75, in the new wherein clause, the word "test" has been replaced by "tests". In claims 1, 75, and 98, the step of "scanning" is introduced. This is not necessarily a computer-implemented step. Thus, "computer-implemented" has been deleted from the preamble of these claims. These are the only changes from the previously-submitted amendments to claims 1, 75, and 98. Thus, claims 1-120 are allowable.

Claims 121-192

The examiner indicated that the previously-submitted amendment would not be entered because the examiner questioned one part of the proposed amendments to claims 121, 147, and 170 – the independent claims in the pending set of computer program product claims, claims 121-192.

The applicant proposed adding "causing the patient's dentition, or a physical model thereof, to be scanned" to claims 121, 147, and 170 to overcome a § 101 rejection. The examiner, in advisory action, states that the applicant's disclosure "does not teach a computer program that can cause the scanning" and so declined to enter the amendment.

To advance the prosecution, the applicant in the present paper proposes an alternative amendment based on language that the examiner has already considered. In the original action –

mailed March 23, 2000 – and again in the final action, the examiner recognized that claims 5 and 6 included limitations that made the claims as a whole satisfy § 101. These claims read as follows:

> 5. The method of claim 1, wherein some of the data is obtained by imaging a physical model of the patient's teeth.
>
> 6. The method of claim 1, wherein some of the data is obtained by imaging the patient's teeth directly.

The presently-proposed amendments to claims 121, 147, and 170 incorporate the foregoing language in a way that does not raise the question that was raised by the previously-proposed amendments. For this reason, the applicant respectfully submits that claims 121-192, as amended here, are also in condition for allowance.

Attached is a marked-up version of the changes made by the current amendment. The attached page is captioned "Version With Markings To Show Changes Made".

The applicant submits that all of the claims are now in condition for allowance, which action is requested. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 5 Mar 01

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Version With Markings To Show Changes Made

In the claims:

Claims 1, 75, 98, 121, 147, and 170 have been amended as follows.

1. (Amended) A [computer-implemented] method for use in creating a digital model of an individual component of a patient's dentition, the method comprising:

(a) [receiving] scanning the patient's dentition, or a physical model thereof, to produce a data set that forms a three-dimensional (3D) representation of the patient's dentition;

(b) applying a computer-implemented test to the data set to identify data elements that represent portions of an individual component of the patient's dentition; and

(c) creating a digital model of the individual component based upon the identified data elements;

wherein applying the computer-implemented test is carried out by a computer without human intervention.

75. (Amended) A [computer-implemented] method for use in creating a digital model of a tooth in a patient's dentition, the method comprising:

(a) [receiving] scanning the patient's dentition, or a physical model thereof, to produce a three-dimensional (3D) data set representing the patient's dentition;

(b) applying a computer-implemented test to identify data elements that represent an interproximal margin between two teeth in the dentition;

(c) applying another computer-implemented test to select data elements that lie on one side of the interproximal margin for inclusion in the digital model;

wherein applying the computer-implemented tests is carried out by a computer without human intervention.

98. (Amended) A [computer-implemented] method for use in creating a digital model of a tooth in a patient's dentition, the method comprising:

(a) [receiving] scanning the patient's dentition, or a physical model thereof, to produce a 3D dataset representing at least a portion of the patient's dentition, including at least a portion of a tooth and gum tissue surrounding the tooth;

(b) applying a test to identify data elements lying on a gingival boundary that occurs where the tooth and the gum tissue meet; and

(c) applying a test to the data elements lying on the boundary to identify other data elements representing portions of the tooth;

wherein applying the computer-implemented tests is carried out by a computer without human intervention.

121. (Amended) A computer program, tangibly stored on a [tangible storage] computer-readable medium, for use in creating a digital model of an individual component of a patient's dentition, the program including executable instructions that, when executed by a computer, cause the computer to:

(a) receive a data set that forms a three-dimensional (3D) representation of the patient's dentition, wherein some of the data is obtained by imaging a physical model of the patient's teeth or by imaging the patient's teeth directly;

(b) apply a test to the data set to identify data elements that represent portions of an individual component of the patient's dentition; and

(c) create a digital model of the individual component based upon the identified data elements;

wherein the computer applies the test without human intervention.

147. (Amended) A computer program, tangibly stored on a [tangible storage] computer-readable medium, for use in creating a digital model of a tooth in a patient's dentition, the program including executable instructions that, when executed by a computer, cause the computer to:

(a) receive a three-dimensional (3D) data set representing the patient's dentition, wherein some of the data is obtained by imaging a physical model of the patient's teeth or by imaging the patient's teeth directly;

(b) apply a test to identify data elements that represent an interproximal margin between two teeth in the dentition;

(c) apply another test to select data elements that lie on one side of the interproximal margin for inclusion in the digital model;

wherein the computer applies the test without human intervention.

170. (Amended) A computer program, tangibly stored on a [tangible storage] computer-readable medium, for use in creating a digital model of a tooth in a patient's dentition, the program including executable instructions that, when executed by a computer, cause the computer to:

(a) receive a 3D data set representing at least a portion of the patient's dentition, including at least a portion of a tooth and gum tissue surrounding the tooth, wherein some of the data is obtained by imaging a physical model of the patient's teeth or by imaging the patient's teeth directly;

(b) apply a test to identify data elements lying on a gingival boundary that occurs where the tooth and the gum tissue meet; and

(c) apply a test to the data elements lying on the boundary to identify other data elements representing portions of the tooth;

wherein the computer applies the tests without human intervention.